

- 3/36 -

Figure 3:

Clustal W alignment of predicted amino acid sequences of SCS0009 with SV1 and SV2

```

SCS0009      -----MPSGCRCLHLVCLLCILGAPGQPVRA##
SV1-ORF      -----
SV2-ORF      -----

SCS0009      DDCSSHCDLAHGCCAPDGSRCDFGWEGLHCERCVRMPGCQHGTCHQPWQCICHSGWAGK#
SV1-ORF      -----MPGCQHGTCHQPWQCICHSGWAGK
SV2-ORF      -----MPGCQHGTCHQPWQCICHSGWA--
                *****

SCS0009      FCDK-----GFHGRDCERKAGPCEQAGSPCRNGG#
SV1-ORF      FCDKDEHICTTQSPCQNGGQCMYDGGGEYHCVCLPGFHGRDCERKAGPCEQAGSPCRNGG#
SV2-ORF      ----DEHICTTQSPCQNGGQCMYDGGGEYHCVCLPGFHGRDCERKAGPCEQAGSPCRNGG
                *****

SCS0009      QCQDDQGFAFNFTCRCLVGFVGARCEVNVDDCLMRPCANGATCLDGINRFSCLCPEGFAG
SV1-ORF      QCQDDQGFAFNFTCRCLVGFVGARCEVNVDDCLMRPCANGATCLDGINRFSCLCPEGFAG
SV2-ORF      QCQDDQGFAFNFTCRCLVGFVGARCEVNVDDCLMRPCANGATCLDGINRFSCLCPEGFAG
                *****

SCS0009      RFCTINLDDCASRPCQRGARCRDRVHDFDCLCPSGYGGKTCELVLFPVDPPTTVDTPPLGP
SV1-ORF      RFCTINLDDCASRPCQRGARCRDRVHDFDCLCPSGYGGKTCELVLFPVDPPTTVDTPPLGP
SV2-ORF      RFCTINLDDCASRPCQRGARCRDRVHDFDCLCPSGYGGKTCELVLFPVDPPTTVDTPPLGP
                *****

SCS0009      TSAVVVPATGFAPHSAGAGLLRISVKEVVRQEAGLGEPSSLVALVVFALTAALVLATVL
SV1-ORF      TSAVVVPATGFAPHSAGAGLLRISVKEVVRQEAGLGEPSSLVALVVFALTAALVLATVL
SV2-ORF      TSAVVVPATGFAPHSAGAGLLRISVKEVVRQEAGLGEPSSLVALVVFALTAALVLATVL
                *****

SCS0009      LTLRAWRRGVCPPGPCCYPAPHYAPACQDQECQVSMPLPAGLPLPRDLPPPEPGKTAL.
SV1-ORF      LTLRAWRRGVCPPGPCCYPAPHYAPACQDQECQVSMPLPAGLPLPRDLPPPEPGKTAL.
SV2-ORF      LTLRAWRRGVCPPGPCCYPAPHYAPACQDQECQVSMPLPAGLPLPRDLPPPEPGKTAL.
                *****

```

above amino acids XY = exon boundaries.

In the translation, the SV1 and SV2 sequences are shown representing the longest ORF available.

The predicted signal peptide of SCS0009 is ~~shown highlighted in yellow~~ underlined.

The SV1 and SV2 longest ORFs do not contain predicted signal peptides.

- 3/36 -

Figure 3:

Clustal W alignment of precited amino acid sequences of SCS0009 with SV1 and SV2

```

SCS0009      -----MPSGCRCLHLVCLLCILGAPGQPVRA      ##
SV1-ORF      -----
SV2-ORF      -----

SCS0009      DDCSSHC#DLAHGCCAPDGSRCRDPGW#EGLHCERCVRMPGCQHGTCHQPWQCICHSGWAGK
SV1-ORF      -----MPGCQHGTCHQPWQCICHSGWAGK
SV2-ORF      -----MPGCQHGTCHQPWQCICHSGWA--
                        *****

SCS0009      FCDK-----GFHGRDCERKAGPCEQAGSPCRNGG      #
SV1-ORF      FCDKDEHICTTQSPCQNGGQCMYDGGGEYHCVCLPGFHGRDCERKAGPCEQAGSPCRNGG
SV2-ORF      ---DEHICTTQSPCQNGGQCMYDGGGEYHCVCLPGFHGRDCERKAGPCEQAGSPCRNGG
                        *****

SCS0009      QCQDDQGFA#LNFTCRCLVGFGV#GARCEVNVDDCLMRPCANGATCLDGINRFSCLCPEGFAG      #
SV1-ORF      QCQDDQGFA#LNFTCRCLVGFGV#GARCEVNVDDCLMRPCANGATCLDGINRFSCLCPEGFAG
SV2-ORF      QCQDDQGFA#LNFTCRCLVGFGV#GARCEVNVDDCLMRPCANGATCLDGINRFSCLCPEGFAG
                        *****

SCS0009      RFCTINLDDCASRPCQRGARCRDRVHDFDCLCPSGYGGKTCELVLVPVDPPTTVDTPLGP
SV1-ORF      RFCTINLDDCASRPCQRGARCRDRVHDFDCLCPSGYGGKTCELVLVPVDPPTTVDTPLGP
SV2-ORF      RFCTINLDDCASRPCQRGARCRDRVHDFDCLCPSGYGGKTCELVLVPVDPPTTVDTPLGP
                        *****

SCS0009      TSAVVVPATGPAPHSAGAGLLRISVKEVVRQEAGLGEPSLVALVVFGALTAALVLATVL
SV1-ORF      TSAVVVPATGPAPHSAGAGLLRISVKEVVRQEAGLGEPSLVALVVFGALTAALVLATVL
SV2-ORF      TSAVVVPATGPAPHSAGAGLLRISVKEVVRQEAGLGEPSLVALVVFGALTAALVLATVL
                        *****

SCS0009      LTLRAWRRGVCPPGPCCYPAPHYAPACQDQECQVSMLPAGLPLPRDLPEPGKTAL.
SV1-ORF      LTLRAWRRGVCPPGPCCYPAPHYAPACQDQECQVSMLPAGLPLPRDLPEPGKTAL.
SV2-ORF      LTLRAWRRGVCPPGPCCYPAPHYAPACQDQECQVSMLPAGLPLPRDLPEPGKTAL.
                        *****

```

above amino acids = exon boundaries.

In the translation, the SV1 and SV2 sequences are shown representing the longest ORF available.

The predicted signal peptide of SCS0009 is underlined.

The SV1 and SV2 longest ORFs do not contain predicted signal peptides.

- 26/36 -

Figure 23

Nucleotide sequence with translation of SCS0009-SV5 PCR product indicating the positions of the SCS0009-AP1, -AP2, -AP3 and -AP4 primers used to generate the SCS0009 sequence.

SCS0009-AP1

1 tccatccgtc cgtccctcct ggggcggggc ctgaccatgc ccagcgggctg ccgctgcctg
m p s g c r c l

61 catctcgtgt gcctgttgtg cattctgggg gctcccggtc agcctgtccg agccgatgac
h l v c l l c i l g a p g q p v r a d d

121 tgcagctccc actgtgacct ggcccacggc tgctgtgcac ctgacggctc ctgcaggtgt
c s s h c d l a h g c c a p d g s c r c

181 gacccgggct gggaggggct gcaactgtgag cgctgtgtga ggatgcctgg ctgccagcac
d p g w e g l h c e r c v r m p g c q h

241 ggtacctgcc accagccatg gaagtgcac tgccacagtg gctgggcagg caagttctgt
g t c h q p w q c i c h s g w a g k f c

SCS0009-AP2

301 gacaaagatg aacatatctg taccacgcag tccccctgcc agaatggagg ccagtgcattg
d k d e h i c t t q s p c q n g g q c m

SCS0009-AP3

361 tatgacgggg gcgggtgagta ccattgtgtg tgcttaccag gcttccatgg gcgtgactgc
y d g g g e y h c v c l p g f h g r d c

421 gagcgcaagg ctggaccctg tgaacaggca ggctcccat gccgcaatgg cgggcagtgc
e r k a g p c e q a g s p c r n g g q c

481 caggacgacc agggctttgc tctcaacttc acgtgccgct gcttggtggg ctttgtgggt
q d d q g f a l n f t c r c l v g f v g

541 gccgcgtgtg aggtaaatgt ggatgactgc ctgatgcggc cttgtgctaa cggtgccacc
a r c e v n v d d c l m r p c a n g a t

601 tgccttgacg gcataaaccg cttctcctgc ctctgtcctg agggctttgc tggacgcttc
c l d g i n r f s c l c p e g f a g r f

661 tgcaccatca acctggatga ctgtgccagc cgcccatgcc agagaggggc ccgctgtcgg
c t i n l d d c a s r p c q r g a r c r

721 gaccgtgtcc acgacttcga ctgcctctgc ccagtggtt atggtggcaa gacctgtgag
d r v h d f d c l c p s g y g g k t c e

781 cttgtcttac ctgtcccaga cccccaacc acagtggaca cccctctagg gccacctca
l v l p v p d p p t t v d t p l q p t s

- 27/36 -

841 gctgtagtgg tacctgccac ggggccagcc cccacagcg caggggctgg tctgctgagg
 a v v v p a t g p a p h s a g a g l l r
 901 atctcagtga aggaggtggg gcggaggcaa gaggtgggc taggtgagcc tagcttgggtg
 i s v k e v v r r q e a g l g e p s l v
 961 gccctgggtg tgtttggggc cctcactgct gccctgggtc tggctactgt gttgctgacc
 a l v v f g a l t a a l v l a t v l l t
 1021 ctgagggcct ggcgccgggg tgtctgcccc cctggaccct gttgctaccc tgccccacac
 l r a w r r g v c p p g p c c y p a p h
 1081 tatgctccag cgtgccagga ccaggagtgt caggttagca tgctgccagc agggctcccc
 y a p a c q d q e c q v s m l p a g l p
 1141 ctgccacgtg acttgccccc tgagcctgga aagaccacag cactgtgatg gaggtgggg
 l p r d l p p e p g k t t a l

←
 SCS0009-AP4

Underlined Sequence (positions 308-400) ~~in grey~~ = bases not present in
 SCS0009 prediction

- 26/36 -

Figure 23

Nucleotide sequence with translation of SCS0009-SV5 PCR product indicating the positions of the SCS0009-AP1, -AP2, -AP3 and -AP4 primers used to generate the SCS0009 sequence.

```

                                SCS0009-AP1
1  tccatccgtc cgtccctcct ggggcgggog ctgaccatgc ccagcggctg ccgctgcctg
                                m p s g c r c l

61  catctcgtgt gctgtttgtg cattctgggg gctcccggtc agcctgtccg agccgatgac
    h l v c l l c i l g a p g q p v r a d d

121 tgcagctccc actgtgacct ggcccacggc tgetgtgcac ctgacggctc ctgcaggtgt
    c s s h c d l a h g c c a p d g s c r c

181 gaccggggct gggaggggct gcaactgtgag cgctgtgtga ggatgcctgg ctgccagcac
    d p g w e g l h c e r c v r m p g c q h

241 ggtacctgcc accagccatg gcagtgcac tgcacagtg gctgggcagg caagttctgt
    g t c h q p w q c i c h s g w a g k f c
                                SCS0009-AP2
301 gacaaagatg aacatatctg taccacgcag tccccctgcc agaatggagg ccagtgcattg
    d k d e h i c t t q s p c q n g g q c m

                                SCS0009-AP3
361 tatgacgggg gcggtgagta ccattgtgtg tgottaccag gcttccatgg gcgtgactgc
    y d g g g e y h c v c l p g f h g r d c

421 gagcgcaagg ctggaccctg tgaacaggca ggctcccat gccgcaatgg cgggcagtgc
    e r k a g p c e q a g s p c r n g g q c

481 caggacgacc agggctttgc tctcaacttc acgtgccgct gcttgggtggg ctttgtgggt
    q d d q g f a l n f t c r c l v g f v g

541 gcccgctgtg aggtaaatgt ggatgactgc ctgatgcggc cttgtgctaa cggtgccacc
    a r c e v n v d d c l m r p c a n g a t

601 tgccttgacg gcataaacgg cttctcctgc ctctgtcctg agggctttgc tggacgcttc
    c l d g i n r f s c l c p e g f a g r f

661 tgcaccatca acctggatga ctgtgccagc cgcccatgcc agagaggggc ccgctgtcgg
    c t i n l d d c a s r p c q r g a r c r

721 gaccgtgtcc acgacttcga ctgcctctgc ccagtggtt atggtggcaa gacctgtgag
    d r v h d f d c l c p s g y g g k t c e

781 cttgtottac ctgtcccaga ccccccaacc acagtggaca cccctctagg gccacctca
    l v l p v p d p p t t v d t p l g p t s

```

- 27/36 -

```

841  gctgtagtgg tacctgccac ggggccagcc cccacagcg caggggctgg tctgctgogg
      a v v v p a t g p a p h s a g a g l l r

901  atctcagtga aggaggtggt gcggaggcaa gaggtgggc taggtgagcc tagcttggtg
      i s v k e v v r r q e a g l g e p s l v

961  gccctgggtg tgtttggggc cctcactgct gccctgggtc tggctactgt gttgctgacc
      a l v v f g a l t a a l v l a t v l l t

1021 ctgagggcct ggcgccgggg tgtctgcccc cctggaccct gttgctaccc tgccccacac
      l r a w r r g v c p p g p c c y p a p h

1081 tatgctccag cgtgccagga ccaggagtgt caggtagca tgctgccagc agggctcccc
      y a p a c q d q e c q v s m l p a g l p

1141 ctgccacgtg acttgccccc tgagcctgga aagaccacag cactgtgatg gaggtgggg
      l p r d l p p e p g k t t a l

```

←
SCS0009-AP4

Underlined Sequence (positions 308-400)= bases not present in SCS0009 prediction